Automated Frequency Compensation For Remote Synchronization

ABSTRACT OF THE DISCLOSURE

Systems and methods for providing frequency compensation over a wide range of frequency drift are shown. The preferred embodiment utilizes a sweep mode function to provide frequency compensation over a range of frequency drift broader than the frequency drift accommodated by a phase lock loop, without increasing the noise characteristics of the phase lock loop. Accordingly, the preferred embodiment operates in a phase lock loop mode while frequency drift can be compensated for by the lock range of the phase lock loop circuitry. The preferred embodiment operates in sweep mode to step through a range of offset frequencies to position the phase lock loop mode where frequency drift can be compensated for by the lock range of phase lock loop circuitry. Additionally, a preferred embodiment of the present invention includes a drift mode in order to monitor frequency offset information, such as may be used in performing sweep mode functions and/or other control or management functions.